

Appln No. 09/646,897
Reply to Office Action dated March 31, 2003

REMARKS

Claims 15-17 have been canceled. Claims 1-14 and 18-37 and new Claims 38-44 are active in the present application. Reconsideration is respectfully requested.

Information Disclosure Statement

The IDS filed March 6, 2002 in the present application simply lists two cases that are related to the present application and, as such, does not present prior art patents and publications or other published information. The related case information has, in fact, been presented in proper form and proper consideration to these cases must be given by the Examiner.

Drawings

Applicants first note that the figures of the application are described in some detail on pages 65 and 66 of the text in terms of Graphs 1-5. Further, in amending the case to introduce proper headings into the application, applicants have provided a brief description of the drawings.

Specification Amendments

The specification has been amended on pages 6-7 and 65 in order to make minor corrections thereto. Further, the specification has now been provided with proper headings. Entry of the amendments is respectfully requested.

Claim Amendments

Claim 1 has been amended to clarify the essential aspect of the invention that the combination of at least two mineral or organic fillers or pigments, at least one of which has a surface with at least one hydrophilic site and the other at least has at least one organophilic site, is co-structured or co-adsorbed by blending with at least one binding agent.

Further, all of the claims have been amended in order to introduce more conventional claim language into the claims.

New Claims 38-44 have been added, basis for which can be found in the original claims. Entry of the amendments is respectfully requested.

Claim Rejection, 35 USC 112

Claims 14, 20, 23 and 31 have been amended to eliminate the recitation of "a Stress Tech machine", thereby obviating the basis of the rejection of these claims.

Claims 24, 25 and 26 have been corrected in ways that are believed sufficient to obviate the rejection of these claims.

Claims 11 and 12 have been amended in a fashion which is believed sufficient to obviate the issue that has been raised. In this connection it should be noted that newly presented Claims 38 and 39 contain the more narrow aspects of the ranges recited in Claim 11 and 12.

The basis for the rejection of Claims 14, 20, 23 and 31 is believed obviated by the amendments made to these claims. In this connection it should be noted that newly presented

Appln No. 09/646,897

Reply to Office Action dated March 31, 2003

claims 40 to 43 contain the more narrow aspects of the ranges recited in Claim 14, 20, 23 and 31. Withdrawal of the non-reference ground of rejection is respectfully requested.

Invention

The objective of the present invention is to provide a dry composite compound of mineral or organic fillers or pigments or aqueous or non-aqueous solutions of the compound which provide improved optical properties such as opacity, whiteness, coloring or brightness, as well as improved printability characteristics. The composite compound of the invention comprises (a) at least two mineral or organic fillers or pigments, at least one of which has a surface with at least one hydrophilic site and the other at least has at least one organophilic site co-structured or co-adsorbed by being blended with (b) at least one binding agent.

Applicants emphasize that the unique feature of the present invention is that particles of the fillers or pigments of the two types are held together, i.e., co-adsorbed or co-structured, with the binding agent selected so that **in essence** the pigment composite acts as a single pigment. The co-adsorbed or co-structured pigment of the present invention is **not** a blend of different pigments, and thus is a homogeneous product and functions in this manner.

Prior Art Rejection, 35 USC 102

Claims 1, 2, 5, 7-12, 15, 16, 18, 29 and 34 stand rejected based on 35 USC 102(b) or 35 USC 103(a) as anticipated by or obvious over Naydowski et al. This ground of rejection is respectfully traversed.

The Naydowski et al patent represents prior art of relevance to the present invention because it discloses a CaCO_3 -talc coating pigment slurry consisting of (a) calcium carbonate, (b) talc, (c) water and (d) a combination of adjuvants of well known grinding aids and well known dispersants. The pigment mixture is co-ground to a medium particle size of $0.7\ \mu\text{m}$ - $1.3\ \mu\text{m}$. The formulation that is especially useful in the coating of paper. The invention by patentees is directed to the aspect of pigment preparation by which it is known to grind a pigment combination in order to avoid the disadvantages of poor dispersibility of the talc component and inhomogeneities that result from talc agglomeration. That is, a process of grinding of pigments separately or of blending two or more pigments together by mixing and then grinding, which is the so-called co-grinding mentioned, for instance, at column 5, lines 35-38, does **not** result in the co-structuring or co-adsorption of the present claims, but rather in a very good dispersion of each of the separate pigment particles through the use of grinding and dispersing aids as disclosed in the patent. This good dispersion of the pigment types employed in any give preparation **prevents** co-structuring and aggregation of the particles.

At this point applicants believe it is helpful to refer to Test No. 56 described on page 46 of the text and the table on page 51 of the text which shows the results obtained for this test. This test (of the prior art) illustrates the behavior of a talc-pigment mixture such as described by Naydowski et al in that upon dilution of a mixture of fine pigments, the homogeneity of the mixture results as is evident from a 93.4 % presence of CaCO_3 at the surface and a 14.9 % presence of CaCO_3 at the base. These are not the type of results obtained with co-structured or co-adsorbed pigments as in the present invention as is clear

from the results of a number of tests of the present invention in the table that demonstrate the homogeneity of the co-structured products of the present invention.

Applicants recognize that the patent discloses such polymers as those of acrylic acid as grinding aids. However, there is no indication that the polymers interact with the talc and CaCO_3 filler materials as a binder so as to form a co-structured or co-adsorbed product.

Rather, as noted above, the presence of a grinding aid and dispersing agents results in a very good mixture of pigments in a resulting dispersion, and not a co-structured product.

Accordingly, it is believed that the patent does not show or suggest the invention as claimed and withdrawal of the rejection is respectfully requested.

Claims 1, 3-5, 7-12, 15, 16, 18, 21, 26, 29, 34 and 35 stand rejected based on 35 USC 102(b) or 35 USC 103(a) as anticipated by or obvious over Bergmann et al. This ground of rejection is respectfully traversed.

The Bergmann et al also represents relevant prior art in that it discloses a mineral pigment formulation which contains a binder component. A combination of kaolin with other mineral pigments is disclosed along with ungelatinized starch as a binder. There is, however, no teaching or suggestion of a co-structuring of pigment particles by interaction with a binder agent. In fact, the comments made above with respect to the prior art such as Naydowski et al applies in this case also. That is, the process of Naydowski et al results in a good dispersion of pigment particles and **not** the co-structuring of pigment particles as achieved in the present invention. An clear indication that the patent does not embrace the concept of co-structuring or co-adsorption of particles is the disclosure at column 3, lines 13-18 that one or more **additional** mineral pigments can be added to the binder. Obviously, no co-structuring or co-

Appln No. 09/646,897

Reply to Office Action dated March 31, 2003

adsorption exists here. Accordingly, it is believed that the patent does not show or suggest the invention as claimed and withdrawal of the rejection is respectfully requested.

Claims 14, 17, 20, 23 and 31 stand rejected based on 35 USC 103(a) as obvious over Bergmann et al in view of Andersen et al. This ground of rejection is respectfully traversed.

Claims 14, 17, 20, 23 and 31 are directed to secondary aspects of the invention upon which patentability does not depend. Moreover, since these dependent claims are dependent ultimately upon independent claim 1 which is not believed to be shown or suggested by Bergmann et al and further where Andersen et al is not believed to improve upon the deficiencies of Bergmann et al with respect to the present invention, it is believed that the dependent claims are not rendered obvious by the combined prior art. Accordingly, withdrawal of the rejection is respectfully requested.

Claims 24, 32 and 36 stand rejected based on 35 USC 103(a) as obvious over Bergmann et al in view of Arrington-Webb et al. This ground of rejection is respectfully traversed.

Claims 24, 32 and 36 are directed to secondary aspects of the invention upon which patentability does not depend. Moreover, since these dependent claims are dependent ultimately upon independent claim 1, which is not believed to be shown or suggested by Bergmann et al and further where Arrinton-Webb et al is not believed to improve upon the deficiencies of Bergmann et al with respect to the present invention, it is believed that the dependent claims are not rendered obvious by the combined prior art. Accordingly, withdrawal of the rejection is respectfully requested.

Appln No. 09/646,897
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Applicants wish to thank the Examiner for the indication of allowable subject matter in the case.

It is now believed that the application is in proper condition for allowance. Early notice to this effect is earnestly solicited.

Respectfully submitted,

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